

Recovery Plan Action Status

Plan Name: Colorado Pikeminnow (*Ptychocheilus lucius*) Recovery Plan (Amendment and Supplement for Recovery Goals)

Plan Status: Final Revision 2

Plan Date: 28-Aug-02

Lead Agency: USFWS

Lead Office: Upper Colorado River Endangered Fish Recovery Program

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969-7322)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Colorado pikeminnow (=squawfish) (<i>Ptychocheilus lucius</i>)	1	A-1.1	Identify, implement, evaluate, and revise (as necessary through adaptive management) flow regimes to benefit Colorado pikeminnow populations in the Green River, upper Colorado River, and San Juan River subbasins.	Ongoing Current	Prior to FY 1995		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Habitat Maintenance and Manipulation, Research: Habitat Requirements, Research: Management Techniques	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Colorado pikeminnow (=squawfish) (<i>Ptychocheilus lucius</i>)	1	A-1.2	Provide flow regimes (as determined under Task A-1.1) that are necessary for all life stages of Colorado pikeminnow to support recovered populations in the Green River, upper Colorado River, and San Juan River subbasins.	Ongoing Current	Prior to FY 1995		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Acquisition: General, Management: Habitat Maintenance and Manipulation	Contract, Internal Technical Assistance	
Colorado pikeminnow (=squawfish) (<i>Ptychocheilus lucius</i>)	1	A-2.1	Continue to provide fish passage over Redlands Diversion and Grand Valley Diversion to allow adequate movement of Colorado pikeminnow in the upper Colorado River and Gunnison River (see section 4.1 for a discussion on barriers to fish passage).	Complete	FY 1995 - FY 1999		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Habitat Maintenance and Manipulation	Contract, Internal Technical Assistance	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	A-2.2	Modify Price-Stubbs Dam and Government Highline Dam to allow adequate movement of Colorado pikeminnow in the upper Colorado River.	Complete	FY 2000 - FY 2004	FY 2008	Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Habitat Maintenance and Manipulation	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	A-2.3	Identify, evaluate, and modify (as necessary) barriers on the San Juan River (e.g., Cudei Diversion and Hogback Diversion) to allow adequate movement of Colorado pikeminnow.	Complete	Prior to FY 1995	FY 2006	Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Habitat Maintenance and Manipulation, Research: Habitat Requirements, Research: Management Techniques	Contract, Internal Field Assistance, Internal Technical Assistance, Species Expert	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	A-3.1	Investigate the feasibility of modifying releases from Aspinall Unit dams to increase water temperatures in the Gunnison River that would allow for upstream range expansion of Colorado pikeminnow in the Gunnison River (see section 4.1 for discussion on warm-water releases).	Complete	FY 2000 - FY 2004	FY 2000 - FY 2004	Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Research: Management Techniques	Internal Technical Assistance	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	A-3.2	Modify releases from Aspinall Unit dams to increase water temperatures in the Gunnison River, if determined feasible and necessary to achieve demographic criteria for the upper Colorado River subbasin.	Ongoing Current			Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Work type not yet selected	Labor type not yet selected	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	A-4.1	Identify measures (e.g., screens, baffles) to minimize entrainment of subadult and adult Colorado pikeminnow at problematic diversion structures, such as the Green River Canal, Grand Valley Irrigation Canal, Government Highline Diversion Project, and the Redlands Canal Company Diversion.	Partially Complete	Prior to FY 1995		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance, Species Expert	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	A-4.2	Install devices and/or implement other measures (as determined under Task A-4.1) to minimize entrainment.	Partially Complete	FY 1995 - FY 1999		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Habitat Maintenance and Manipulation	Contract, Internal Technical Assistance	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	B-1.1	Reevaluate and, if necessary, identify actions to ensure adequate protection from overutilization of Colorado pikeminnow for commercial, recreational, scientific, or educational purposes; not currently identified as an existing threat.	Complete	FY 2000 - FY 2004		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management	Internal Technical Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	B-1.2	Implement identified actions (as determined under Task B-1.1) to ensure adequate protection of Colorado pikeminnow populations from overutilization for commercial, recreational, scientific, or educational purposes.	Ongoing Current	FY 2000 - FY 2004		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management	Internal Technical Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-1.1.	Reevaluate and, if necessary, identify actions to minimize adverse effects of diseases and parasites on Colorado pikeminnow populations; not currently identified as an existing threat (see sections 4.3.1 and A.11 for discussion of diseases and parasites).	Ongoing Current	FY 2000 - FY 2004		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Disease Control	Internal Technical Assistance, Species Expert	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-1.2	Implement identified actions (as determined under Task C-1.1) to ensure adequate protection of Colorado pikeminnow populations from deleterious diseases and parasites.	Ongoing Current	FY 2000 - FY 2004		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Disease Control	Internal Technical Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-2.1	Develop, implement, evaluate, and revise (as necessary through adaptive management) procedures for stocking nonnative fish species in the Upper Colorado River Basin (including the San Juan River subbasin) to minimize negative interactions between nonnative fishes and Colorado pikeminnow.	Complete	FY 1995 - FY 1999	FY 2009	Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Predator and Competitor Control	Internal Technical Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-2.2	Finalize and implement procedures (as determined under Task C-2.1) for stocking nonnative fish species in the Upper Colorado River Basin to minimize negative interactions between nonnative fishes and Colorado pikeminnow.	Complete	FY 1995 - FY 1999	FY 2009	Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Predator and Competitor Control	Internal Technical Assistance	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-3.1	Develop control programs for small-bodied nonnative fishes (e.g., cyprinids and centrarchids) in backwater and flooded off-channel nursery habitats in river reaches occupied by young Colorado pikeminnow to identify levels of control that will minimize negative interactions (e.g., competition and predation; see sections 4.3.2 and A.7 discussion of effects of nonnative fishes).	Ongoing Current	Prior to FY 1995		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Predator and Competitor Control	Internal Field Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-3.2	Implement identified levels (as determined under Task C-3.1) of nonnative fish control in backwater and flooded off-channel nursery habitats in river reaches occupied by young Colorado pikeminnow.	Ongoing Current	FY 1995 - FY 1999		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Predator and Competitor Control	Contract, Internal Field Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-3.3	Develop channel catfish control programs in river reaches occupied by Colorado pikeminnow to identify levels of control that will minimize negative interactions.	Partially Complete	FY 1995 - FY 1999		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Predator and Competitor Control, Research: Predation	Contract, Internal Field Assistance	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-3.4	Implement identified levels (as determined under Task C-3.3) of channel catfish control in river reaches occupied by Colorado pikeminnow.	Not Started			Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Predator and Competitor Control	Internal Field Assistance	Experimental management continues to identify level of control needed.
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-3.5	Develop northern pike control programs in reaches of the Yampa and middle Green rivers occupied by Colorado pikeminnow to identify levels of control that will minimize negative interactions.	Partially Complete	FY 1995 - FY 1999		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Research: Predation	Contract, Internal Field Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	C-3.6	Implement identified levels (as determined under Task C-3.5) of northern pike control in reaches of the Yampa and middle Green rivers occupied by Colorado pikeminnow.	Ongoing Current	FY 2000 - FY 2004		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Predator and Competitor Control	Contract, Internal Field Assistance	Experimental management continues to identify level of control needed.

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	D-1.2	Implement mechanisms for legal protection of habitat (as determined under Task D-1.1) that are necessary to provide adequate habitat and sufficient range for all life stages of Colorado pikeminnow to support recovered populations.	Ongoing Current	Prior to FY 1995		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management	Contract, Internal Administrative, Internal Field Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	D-2.1	Identify elements needed for the development of conservation plans that are necessary to provide for the long-term management and protection of Colorado pikeminnow populations; elements of these plans may include (but are not limited to) provision of flows for maintenance of adequate habitat conditions for all life stages of Colorado pikeminnow, regulation and/or control of nonnative fishes, minimization of the risk of hazardous-materials spills, and monitoring of populations and habitats.	Ongoing Current	FY 2000 - FY 2004		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Planning	Contract, Internal Field Assistance, Volunteer	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	D-2.2	Develop and implement conservation plans and execute agreements among State agencies, Federal agencies, American Indian tribes, and other interested parties to provide reasonable assurances that conditions needed for recovered Colorado pikeminnow populations will be maintained.	Not Started			Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Planning	Contract, Internal Field Assistance, Volunteer	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	D.1.1	Determine mechanisms for legal protection of adequate habitat through instream-flow rights, contracts, agreements, or other means.	Partially Complete	Prior to FY 1995		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Acquisition: Management Agreement, Other: Regulations	Contract, Internal Administrative, Internal Field Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	E-1.1	Review and recommend modifications to State and Federal hazardous-materials spills emergency-response plans to ensure adequate protection for Colorado pikeminnow populations from hazardous-materials spills, including prevention and quick response to hazardous-materials spills.	Ongoing Current	FY 2000 - FY 2004		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Planning	Contract, Internal Field Assistance	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	E-1.2	Implement State and Federal emergency-response plans that contain the necessary preventive measures (as determined under Task E-1.1) for hazardous-materials spills.	Not Started			Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Planning	Contract, Internal Field Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	E-1.3	Identify locations of all petroleum-product pipelines within the 100-year floodplain of critical habitat and assess the need for emergency shut-off valves to minimize the potential for spills.	Partially Complete	FY 2000 - FY 2004		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Planning	Contract, Internal Field Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	E-1.4	Install emergency shut-off valves (as determined under Task E-1.3) on problematic petroleum-product pipelines within the 100-year floodplain of critical habitat.	Ongoing Current	FY 2006		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Land Use	Contract, Internal Field Assistance	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	E-2.1	Identify actions to remediate groundwater contamination from the Atlas Mills tailings pile located near Moab, Utah, in order to restore water quality of the Colorado River in the vicinity of the pile in accordance with the State of Utah and Environmental Protection Agency (EPA) water-quality standards for fish and wildlife.	Complete	FY 2000 - FY 2004	FY 2005	Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Land Use, Other: Regulations	Contract, Internal Field Assistance	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	E-2.2	Implement actions (as determined under Task E-2.1) to remediate groundwater contamination from the Atlas Mills tailings pile.	Ongoing Current	FY 2006		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Land Use, Other: Regulations	Contract	
Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	E-3.1	Reevaluate the effects of selenium contamination on Colorado pikeminnow reproductive success and survival of young, and, if necessary, identify actions to reduce deleterious levels of selenium contamination.	Ongoing Current	FY 1995 - FY 1999		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Research: Environmental Contaminants	Contract, Internal Field Assistance	

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Colorado pikeminnow (=squawfish) (Ptychocheilus lucius)	1	E-3.2	Implement identified actions (as determined under Task E-3.1) to reduce deleterious levels of selenium contamination.	Ongoing Current	FY 1995 - FY 1999		Upper Colorado River Endangered Fish Recovery Program, USFWS - Region 2, Endangered Species & Fisheries, USFWS Region 6, Endangered Species & Fisheries, San Juan River Basin Recovery Implementation Program	Management: Habitat Maintenance and Manipulation	Contract, Internal Field Assistance	Stewart Lake (Green River) and "Hot spots" on Colorado River are flushed with river flows to minimize selenium concentrations